

Commodity Highlight: Fresh-Market Apples

Top Five Countries Produce More Than Half of World Apples

Over 80 countries around the world grow apples commercially and together produce a total of about 58 million metric tons each year. However, more than half of this total is produced by the top five apple-producing countries. Rapid production growth, particularly during the 1990s, has positioned China as the world's largest apple producer, supplying over one-third of the world's output. Most of its growth may be attributed to acreage expansion as its average yields, although improving, remains well below the world average of about 12,000 pounds per acre. In the United States, average yields are more than twice the yields achieved in China, but it has far less production capacity due to its much smaller production area (fig. 3). Presently, the United States ranks as the second largest apple-producing country, contributing 7 percent of the world total. Rounding the top five apple-producing countries are Turkey, France, and Iran, each producing about 4 percent of the world total.

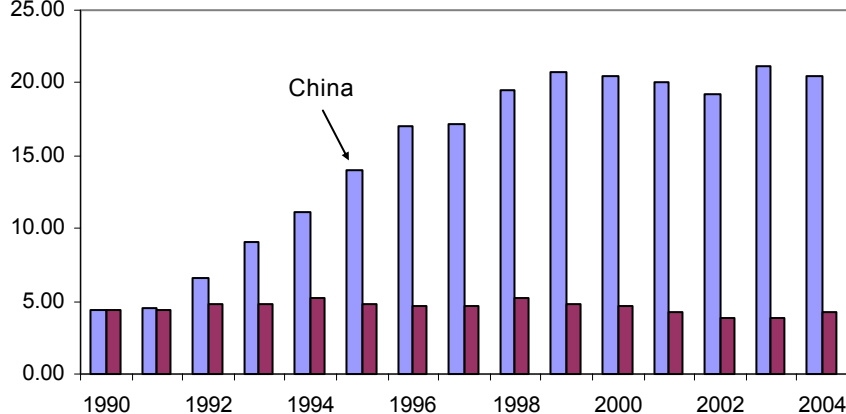
Fresh-Market Apples: A Larger Piece of the Pie

Apples are traditionally eaten as a fresh fruit, although its uses also extend over many processed forms, such as juice and cider, applesauce, frozen, and dried. In recent years, the gap between fresh-market production and processing production has widened. The share of fresh-market production to utilized production averaged 62 percent during 2000-2003, up from over 55 percent during the eighties and nineties. Many growers are finding better opportunities in the fresh market, particularly since the late nineties when increased competition from lower priced imports of Chinese apple juice concentrate led to economic difficulties in the industry, driving down grower prices for juice apples and had ripple effects on the other apple processing sectors. In the United States, the apple juice processing sector receives about half of all the apples produced domestically for processing.

Figure 3

Apple production in China and the United States

Million metric tons
25.00

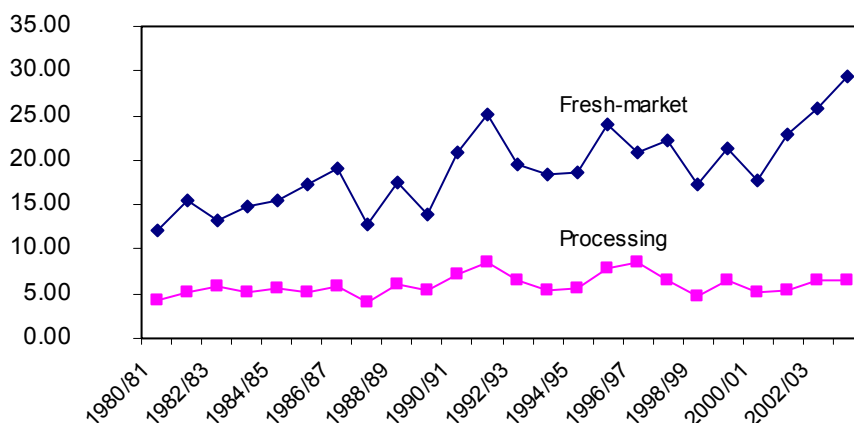


Source: Food and Agriculture Organization, United Nations.

Figure 4

Average grower price for U.S. fresh-market and processing apples 1/

Cents/lb



1/ Follows a August-July marketing season beginning with the first year shown.

Source: National Agricultural Statistics Service, USDA.

The price difference between fresh-market apples and processing apples has grown wider since the 1980s (fig. 4). Growers were paid on average 10 cents per pound and 14 cents per pound more for fresh-market apples in the eighties and nineties, and 18 cents per pound more in recent years. The annual farm value of fresh-market apples averaged \$1.4 billion during 2001-2003, or over 85 percent of the farm value for the U.S. apple crop.

Washington Leads in Production in the United States

Commercial apple production is widespread in the United States, but Washington produces more than half of the Nation's annual output. There are presently 155,000 acres of apples in production in Washington, or 40 percent of total bearing acreage. As the largest apple-producing State, Washington supplies 65 to 75 percent of all the apples sold in the fresh market. New York, Michigan, California, and Pennsylvania are also major apple-producing States, but a larger share of each of these States' production is sold to processors. Together these four States supply 15 to 20 percent of U.S. fresh-market apples and 40 to 50 percent of total processing apples. Although about three-quarters of Washington's production is for fresh use, it also supplies the largest quantity to the processing sector.

Red and Golden Delicious Apples Losing Ground

U.S. consumers have been eating apples in a wider range of varieties over the last decade or so. With only little growth in demand for U.S. apples over the years, growers were encouraged to come up with new marketing strategies, including offering newer varieties to consumers such as Fuji, Gala, Jonagold, Empire, Braeburn, Pink Lady, Cameo, and Pacific Rose. The more traditional varieties include Red Delicious, Golden Delicious, Macintosh, Rome Beauty, Granny Smith, and Jonathan. Domestic production of Fuji and Gala apples was initially established to better opportunities in major export markets, particularly in East Asia where these two varieties are popular. However, the growing presence of lower-

priced apples from China in many Southeast and East Asian markets, along with the rapid expansion in U.S. Fuji and Gala production, drove U.S. apple growers to also seek opportunities for these new varieties in the domestic market.

U.S. apple growers have adopted new varieties mostly by expanding acreage in the late 1980s, and also by replacing traditional varieties with new ones. The Red Delicious and Golden Delicious are still the two most widely produced apples in the United States, but both varieties have seen its share of total production decline. Based on data from the U.S. Apple Association, Red Delicious is expected to account for 27 percent of the 2004/05 U.S. apple crop and Golden Delicious apples 13 percent. Both these shares are down from their 1990 shares of 44 percent and 16 percent, respectively.

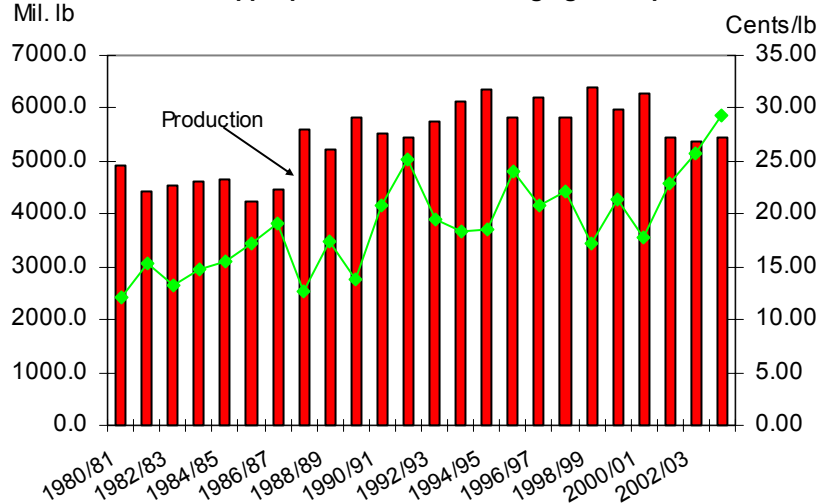
Gala and Fuji production has already surpassed output of traditional varieties, particularly Granny Smith, Rome, Macintosh, Jonathan, York, and Idared which have previously ranked higher. Now, Gala and Fuji are the third and fourth leading apple varieties grown in the United States. Production of Gala has increased nearly fivefold since the early 1990s and Fuji output has more than tripled. Production shares for both varieties also reflect their popularity, increasing from nearly 2 percent in 1993 to between 9 and 10 percent in the last 3 years. Although also gaining in popularity, production of other newer varieties, except Empire, remain relatively small and are not yet reported separately. Grown mostly in the eastern United States and sold primarily for fresh use, Empire ranks number 10 in apple production. Its production in the last 2 years has about doubled since 1990 but has declined from late-1990 levels.

Recent Production Reversing Late-Nineties Declining Trend, Improving Grower Prices

Improved planting and management practices to boost yields, along with an expansion in bearing acreage, helped U.S. apple growers achieve large output levels during much of the nineties. Production growth, however, slowed slightly to an average rate of less than 1 percent each year during the nineties, from 2 percent during the eighties, mostly reflecting new variety plantings that have not yet come into production or were yet to reach full production potential. By late in the decade, large domestic production, increased foreign competition (especially with respect to China), the Asian financial crisis, and the commencement of antidumping issues with Mexico, all combined to depress the overall market for apples in the United States, squeezing grower returns and forcing many marginal growers out of production. In the most recent Census of Agriculture, the number of U.S. farms growing apples decreased from 33,835 in 1997 to 26,853 in 2002.

During the record-production season 1998/99, grower prices for fresh-market apples fell to an average of 17.3 cents per pound, the lowest price since 1988, and processing apple prices fell to 95 cents per pound, also the lowest in the last several years. Bearing acreage has declined each year since then, pushing down production for four consecutive seasons and reaching below-average levels during 2001/02 through 2003/04. Production in 1999/2000-2002/03 declined at an average annual rate of 7 percent, while fresh-market grower prices improved. Higher yields during 2003/04 helped reverse the recent downward trend in production. The 2003/04 U.S. apple crop increased 2 percent from the previous season to 8.7 billion pounds, still

Figure 5
U.S. fresh-market apple production and average grower price
 Mil. lb



Source: National Agricultural Statistics Service, USDA.

below average. Fresh-market grower prices continued to increase, reaching a record average of 29.4 cents per pound. Although bearing acreage is down fractionally for the 2004/05 season, very good yields in many apple-producing States will help bring production back to the large crop size levels of the 1990s, and this could drive down grower prices in both the fresh and processing markets.

Domestic grower prices for fresh-market apples moved inversely with production during most marketing seasons over the last 24 years (fig. 5). Prices declined in years when fresh-market production grew, and prices rose when output fell. More recently (2003/04), the season-average grower price increased 14 percent even with an increase in production. Three consecutive seasons (2001/02-2003/04) of below-average production, partly weather induced and partly due to growers exiting the industry as a result of poor returns during the late nineties, helped in keeping prices strong that season. Previous season inventories in cold storage remained low into 2003/04, aiding in clearing out the market before the new crop season went in full swing. For the 2004/05 season, the U.S. apple crop is expected to reach 10.1 billion pounds, increasing 16 percent from the prior season. Based on the historical share of fresh-market use to total apple production, the Economic Research Service projects about 6.1 billion pounds of this season's production will be for fresh use, up 11 percent from 2003/04. The preliminary estimate for the 2004/05 season-average grower price for all apples (all uses) is 17.7 cents per pound, down from the record-high price of 21.0 cents per pound in 2003/04. Prices received by growers for fresh-market apples for the 2004/05 season through February are down 19 percent on average.

U.S. Fresh Apple Consumption Flat, Exports More Crucial

The variety of fruit available for fresh consumption in the United States has escalated rapidly, especially during the 1990s, limiting the growth in demand for U.S. apples. Expansion of fruit production in Southern Hemisphere countries, particularly in Chile, enhanced the region's export capability, bringing more choices

to U.S. consumers during the winter season when most domestically-grown fruit, except citrus, apples, and pears, are not in season. In addition, the growing ethnic population in the United States has influenced the increased presence of “exotic” or nontraditional fruit in the domestic market. Fresh apple demand in the United States has remained relatively stagnant for over three decades, with consumption averaging around 15 to 19 pounds per person since the 1970s (table 15). The industry has continued to be proactive in their efforts to help boost demand for fresh apples. Apart from building demand for new apple varieties in the domestic market, they have sought to introduce new products that address consumer’s preference for convenience, such as fresh-cut apples, and are engaged in promotional efforts that continue to build on consumers increased awareness of the healthy benefits derived from apple consumption. As part of their campaign to educate consumers about the healthiness of eating apples, the industry has also recently penetrated the fast food service industry. For example, apple dippers (fresh, peeled apple slices apples served with a low fat caramel dipping sauce) are now offered as a new Happy Meal choice at MacDonald’s.

With the lack of demand for fresh apples in the domestic market and the expansion in U.S. production, particularly during the 1980s and 1990s, export markets have grown increasingly important to the U.S. apple industry. They have channeled an increasing share of U.S. fresh-market apples to export markets. This share has risen from an average of 6 percent during the 1970s to 12 percent in the 1980s and to over 20 percent during the 1990s and most recent years. The United States has always been a net exporter of fresh apples, and for over three decades the country’s exports have grown from nearly 250 million pounds, on average, to over 1.3 billion pounds in the past 5 years. Valued at an average of about \$45 million annually, U.S. fresh apple exports account for over one-tenth of total world export volume. The United States previously ranked as the third largest apple exporter in the world, next to France and Italy. However, below-average production in the past 3 years and declining exports to Mexico, its largest foreign market, were largely responsible for limiting recent growth in U.S. fresh apple exports. In 2003, China and Chile surpassed the United States in exports of fresh apples, pushing it down to fourth place. About half of U.S. apple exports go to Mexico, Canada, and Taiwan.

Imports Also Growing

The United States is also among the world’s largest importers of fresh apples. Although still small relative to what is produced domestically, imports are showing a growing presence in the U.S. market. The quantity of fresh apples the United States has sourced globally has more than doubled since the eighties, reaching an average of over 400 million pounds annually during the first 4 years of the new decade. Import’s share of domestic fresh apple consumption has risen from less than 5 percent in 1990/91 to 10 percent in 2003/04.

Chile has emerged as a strong player in the marketing of fresh imported apples in the United States over the past decade as it successfully developed a more export-oriented apple industry and benefited also from the growing demand in the Northern Hemisphere for off-season fruit. Chile is by far the largest foreign source of fresh apples for the United States, accounting for over 40 percent of total import volume. This share is up from over 10 percent during the mid-nineties. Volumes shipped into the United States from Chile surpassed those from Canada by the end of the

1990s, and also those from New Zealand in more recent years. Canada was the number one foreign supplier until 1998 when it switched its rank with New Zealand who had second place. Now, New Zealand accounts for over 30 percent of total import volume and Canada over 20 percent.

Table 15--U.S. fresh apples: Supply and utilization, 1970/71-2004/05

Year 1/	Fresh utilized production	Imports	Total Supply	Exports	Shipments to territories	Utilization	
						Total	Per capita
					----- Million pounds -----		
1970/71	3,531.5	95.1	3,626.6	102.3	11.0	3,513.3	17.0
1971/72	3,483.9	80.3	3,564.2	118.8	14.3	3,431.1	16.4
1972/73	3,342.0	103.5	3,445.5	149.7	19.3	3,276.5	15.5
1973/74	3,539.4	90.0	3,629.4	181.9	13.3	3,434.2	16.1
1974/75	3,690.5	79.2	3,769.7	232.8	11.4	3,525.5	16.4
1975/76	4,357.0	119.1	4,476.1	236.3	9.4	4,230.4	19.5
1976/77	3,915.8	103.3	4,019.1	267.9	7.4	3,743.8	17.1
1977/78	3,859.6	123.6	3,983.2	316.8	8.5	3,657.9	16.5
1978/79	4,210.4	157.2	4,367.6	337.2	13.1	4,017.3	17.9
1979/80	4,288.6	153.0	4,441.6	545.4	14.8	3,881.4	17.1
1980/81	4,934.1	177.2	5,111.3	697.4	18.6	4,395.3	19.2
1981/82	4,442.2	149.7	4,591.9	682.7	14.4	3,894.8	16.8
1982/83	4,536.7	197.5	4,734.2	629.7	12.6	4,091.9	17.5
1983/84	4,620.5	233.5	4,854.0	544.2	9.5	4,300.3	18.3
1984/85	4,654.6	241.9	4,896.5	528.3	9.9	4,358.3	18.4
1985/86	4,221.7	314.6	4,536.3	390.2	9.9	4,136.2	17.3
1986/87	4,463.6	310.2	4,773.8	445.7	14.1	4,314.0	17.8
1987/88	5,610.1	262.8	5,872.9	780.7	10.3	5,081.9	20.8
1988/89	5,230.3	256.3	5,486.6	602.5	-	4,884.1	19.8
1989/90	5,822.3	228.0	6,050.3	773.9	-	5,276.3	21.2
1990/91	5,515.0	229.7	5,744.7	818.0	-	4,926.7	19.6
1991/92	5,447.0	303.0	5,750.0	1,132.0	-	4,618.0	18.1
1992/93	5,767.0	259.4	6,026.4	1,082.2	-	4,944.2	19.1
1993/94	6,123.9	238.9	6,362.8	1,390.6	-	4,972.2	19.0
1994/95	6,366.2	286.9	6,653.1	1,526.7	-	5,126.4	19.4
1995/96	5,840.2	383.4	6,223.6	1,217.2	-	5,006.4	18.7
1996/97	6,206.9	373.3	6,580.2	1,518.3	-	5,061.9	18.7
1997/98	5,814.5	356.4	6,170.9	1,209.1	-	4,961.8	18.1
1998/99	6,412.5	344.2	6,756.7	1,487.8	-	5,268.9	19.0
1999/00	5,995.7	377.5	6,373.2	1,175.2	-	5,198.1	18.5
2000/01	6,265.5	358.9	6,624.4	1,667.1	-	4,957.3	17.5
2001/02	5,467.5	361.4	5,828.9	1,353.1	-	4,475.8	15.6
2002/03	5,366.0	412.4	5,778.4	1,144.9	-	4,633.5	16.0
2003/04	5,441.8	472.7	5,914.5	986.3	-	4,928.2	16.8
2004/05 F	6,049.3	399.9	6,449.2	1,134.3	-	5,314.9	17.8

F=Forecast

1/ Marketing year begins in August of the first year shown.

Source: Economic Research Service, USDA.

For the most recent information, see:

<http://www.ers.usda.gov/publications/fts>